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IN THE

Supreme Court of the United States

STATE OF WISCONSIN, STATE OF MINNESOTA, STATE OF OHIO, and STATE OF PENNSYLVANIA, Complainants, vs. STATE OF ILLINOIS and THE SANITARY DISTRICT OF CHICAGO, Defendants. STATE OF MISSOURI, STATE OF KENTUCKY, STATE OF TENNESSEE, STATE OF LOUISIANA, STATE OF MISSISSIPPI, and STATE OF ARKANSAS, Intervening Defendants.	No. 5 Original.
STATE OF MICHIGAN Complainant, vs. STATE OF ILLINOIS and THE SANITARY DISTRICT OF CHICAGO, et al., Defendants.	No. 8 Original.
STATE OF NEW YORK Complainant, vs. STATE OF ILLINOIS and THE SANITARY DISTRICT OF CHICAGO, et al., Defendants.	No. 9 Original.

SEMI-ANNUAL REPORT OF THE SANITARY DISTRICT OF CHICAGO OF JANUARY 1, 1933, MADE PURSUANT TO DECREE OF APRIL 21, 1930.

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NOS. 5, 8 and 9, ORIGINAL

OCTOBER TERM, 1932

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SEMI-ANNUAL REPORT OF THE SANITARY DISTRICT OF CHICAGO OF JANUARY 1, 1933, MADE PURSUANT TO DECREE OF APRIL 21, 1930.

Pursuant to provisions of paragraph numbered 5 of the Decree in the above entitled causes, entered on April 21, 1930, the Defendant, The Sanitary District of Chicago, hereby makes its semi-annual report of January 1, 1933, as follows:

CONSTRUCTION PROGRAM.

In the semi-annual report of July 1, 1932, the status of the sewage treatment construction program of the Sanitary District was stated to be on June 1, 1932, as follows:

TABLE 1.

COMPLETED WORK AS OF JUNE 1, 1932

Calumet Project	$20,828,687.30	
North Side Project	36,890,433.94	
West Side Project	41,478,568.30	
Southwest Side Project	272,596.01	
Miscellaneous Plants and Sewers	595,978.63	
Chicago River Controlling Works	53,415.74	$100,119,679.92

TABLE 2.

FUTURE WORK AFTER JUNE 1, 1932.

Calumet Project	$18,821,234.72	
North Side Project	4,964,077.49	
West Side Project	61,254,686.02	
Southwest Side Project	70,544,403.99	
Miscellaneous Plants and Sewers	9,906,619.43	
Chicago River Controlling Works	3,946,584.26	$169,437,605.91

During the interim of six months between the date of the last report and the present report, very little construction has been accomplished. Work has been prosecuted diligently with a greatly reduced force on design of the Calumet and West Side Projects and on studies for the Southwest Side Project.

Calumet Project. Construction work on the Calumet Pumping Station and Blower House and on the Aeration Tanks, Operating Galleries and Final Settling Tanks has been discontinued since December, 1931, because of the inability of the Sanitary District to pay the Contractors, as was indicated in the last report to the Court. The manufacturing of pumps, pump motors and large valves has been completed and this machinery is in storage. The fabrication of blowers and blower motors is about 40 per cent completed. None of this machinery work has been paid for. Plans are practically completed for the Harvey sewer and for the sewer in South Park

Avenue. These sewers are estimated to cost about $2,500,000.

No work has been done in the past six months on plans for settling tanks or structures for the digestion and disposal of sludge. The designing of this portion of the treatment plant has been delayed pending the outcome of experiments now being conducted at the West Side Treatment Works on the dewatering and incineration of sludge. If the final results from these tests are as favorable as present indications, the delay in constructing this part of the treatment process will result in a considerable saving of money, without postponing the ultimate completion of the plant to any unreasonable extent.

West Side Project. Construction work on the third battery of Imhoff tanks and on Contract Sections 3 and 4, of the West Side sewer, has also been discontinued since December, 1931. Plans have been completed for Contract Sections 5 and 6, of the West Side sewer, and plans are practically complete for Section 7 of this sewer, but no money is presently available for this construction. These three sections of the West Side sewer are estimated to cost about $3,500,000.

The construction of the sludge filtering and drying unit was completed late in July, 1932, and experiments on the dewatering and incinerating of sludge were started on August 5, 1932. Results from these experiments, so far, are quite satisfactory and indicate the probability that incineration of sludge is feasible and economical where the quantities to be handled are large. It seems probable that the dewatering and incineration of sludge will replace the digestion and disposal of sludge in the future sewage treatment at the West Side, Southwest Side and Calumet plants. This change in the process should result in considerable saving in construction costs, in economy of space and in time of construction.

Preliminary designs have been made for the West Side aeration tanks looking forward to the early construction of the activated sludge portion of this

plant and preliminary layouts studied in which these aeration tanks are combined with those of the Southwest Side, locating all on the West Side site.

Southwest Side Project. No further steps have been taken towards the acquisition of the site originally contemplated for the Southwest Side Treatment Works. The layouts already made indicate that these works, or at any rate the major portion of them, may be constructed on a portion of the land acquired for the extension of the West Side Works. This is contingent on the practicability of dewatering and incinerating sludge.

As was stated in the semi-annual report to the Supreme Court of July 1, 1932, the tests on certain sewers leading from Packingtown and the Stockyards were completed and the results are being studied. This information was needed for the proper design of the Southwest Side Works.

A definite conclusion as to the quantity of wastes to be handled in this plant will be made in the very near future. The suit entitled "The Sanitary District of Chicago vs. Swift & Company, et al," in the U. S. District Court, Northern District of Illinois (No. 3848) is now before a Master in Chancery on reference, and the taking of testimony shortly will begin. This suit has been mentioned in one or more previous reports. The relief sought is an injunction to restrain owners of packing houses, etc., from denying to inspectors and representatives of the Sanitary District access to their plants which is deemed necessary for the purpose of obtaining information from which to determine the quantities of wastes discharged into the sewers by each of said industries. Since the information from which a definite determination of the aggregate quantity of these trade wastes can be made has now been obtained through the tests above mentioned, the progress of this litigation can neither expedite nor

delay the construction of the Southwest Side Treatment Works.

Financial. As stated in the last two semi-annual reports to the Supreme Court, a crisis had been reached in the financial affairs of the Sanitary District in December, 1931. In the year which has elapsed since that time there has been no appreciable improvement in the situation. The Sanitary District has unsold bonds to the amount of $7,614,000 out of the $27,000,000 of bonds authorized by the Illinois General Assembly in 1929, in addition to $36,000,000 of bonds approved by the voters in February, 1931, but these resources for construction, amounting to approximately $43,000,000, are of no avail under present depression conditions, since no reasonable offer from any source can be obtained for the purchase of bonds.

The last sale of bonds by the Sanitary District was on August 20, 1931. Bonds were offered for sale on November 5, 1931, but no bids whatever were received. Since that date diligent and vigorous efforts to find purchasers for bonds have met with failure. Banks in Chicago, New York, Philadelphia and Boston, insurance companies, dealers in investment securities and others have been canvassed without success.

Since all the sewage treatment construction is financed from the proceeds from the sale of bonds and since the Sanitary District has been unable to sell any bonds whatever during the past sixteen months because of the delay and delinquency in the payment of taxes, it is not surprising that practically all construction work has been shut down for the past year.

The Sanitary District has not been able to pay current bills or to make any payment to its contractors for construction work, since November 1, 1931,

except in a few cases where the payee succeeded in finding purchasers for tax anticipation warrants the proceeds of the sale of which were used in making payments.

As was stated in the last semi-annual report to the Court the personnel of the Engineering organization which has to do with the Sewage Treatment Construction Program has been materially reduced, but the organization is not broken up. The key men in each division, those best acquainted with the work, are still retained and the organization can be quickly expanded into the necessary efficient working organization as soon as finances become available. Salaries of the present force have been unpaid since October 1, 1932.

This bad financial condition of the Sanitary District has been brought about by delay in the collection of taxes coupled with the unprecedented depression in business. The delay in the collection of taxes is due to an order of the State Tax Commission of Illinois for a revaluation and re-assessment of all taxable real property in Cook County, issued in July, 1928, and estimated to require six months to complete. It actually required more than two years and 1928 taxes (normally due May 1, 1929) were made payable July 1, 1930. The 1929 taxes (ordinarily due May 1, 1930) were made payable May 1, 1931; the 1930 taxes (normally due May 1, 1931) were made payable April 15, 1932; and the 1931 taxes, which under ordinary conditions would have been collected by May 1, 1932, are just now being extended for collection. For a period of more than two years all the municipalities in Cook County, including the Sanitary District, were without any income whatsoever derived from taxes.

The tax situation in Cook County, Illinois, has not improved appreciably since the time of the last semi-annual report to the Court, but quite recently there have been some indications that considerable improvement may be expected in the near future.

The amounts of taxes levied by the Sanitary District for the years 1928, 1929, 1930 and 1931, and the amounts received by the Sanitary District from the County Collector up to December 12, 1932, pursuant to these levies, are as follows:

Year	Total Amount of Levy	Amount Collected	Amount Unpaid	Percentage Unpaid
1928	$20,700,455.00	$15,748,606.88	$ 4,951,848.12	24%
1929	24,518,343.75	17,120,513.60	7,397,830.15	30%
1930	21,725,603.75	12,243,284.00	9,482,319.75	44%
1931	18,875,953.75	0.00	18,875,953.75	100%
Total	$85,820,356.25	$45,112,404.48	$40,707,951.77	47%

It is generally understood that the 1931 real estate tax bills will be sent out after January 1, 1933, and will be payable in two installments, the first of which will become delinquent on March 1, 1933, and the second on July 1, 1933. The tax levy of the Sanitary District for 1931 amounts to $18,875,953.75, made up of $13,875,953.75 for bond interest and redemption and $5,000,000.00 for corporate purposes, which includes all maintenance and operation expenses.

Included in the $40,707,951.77 of uncollected taxes, shown in the tabulation above, is the approximate amount of $28,400,000.00 which had been levied for the payment of interest and maturing principal of bonds. The non-payment of these taxes has forced the Sanitary District, through lack of revenue, to default in all payments of interest and maturing principal on bonds used for construction work, falling due from January 1, 1932 to December 1, 1932, inclusive. The amounts in default, as of December 20, 1932, are:

Principal	$ 7,597,500.00
Interest	4,555,007.50
Total	$12,152,507.50

A further default in payment of principal and interest on bonds due January 1, 1933, in the amount of $1,020,395.00 may be expected.

In September, 1932, the Sanitary District filed with the Reconstruction Finance Corporation, in Washington, D. C., an application for a loan of $36,450,000.00, the proceeds of which were to be applied on the construction of sewage treatment projects as follows:

Calumet Project	$13,674,000.00
West Side Project	22,426,000.00
North Side Project	350,000.00
Total	$36,450,000.00

If this loan should be granted, work on the sewage treatment construction program would be resumed at once on the $8,810,500.00 of work already under contract and on $3,500,000.00 to $4,000,000.00 more of work for which plans are ready, as quickly as contracts could be let. The principal question with reference to this loan is whether the sewage treatment construction projects can be deemed to be "self-liquidating" within the meaning and intent of the "Emergency Relief and Construction Act of 1932."

To safeguard against any doubts which might be entertained by the legal advisers of the Reconstruction Finance Corporation as to the eligibility of the proposed loan, the Sanitary District on December 5, 1932, caused to be introduced in the House of Representatives an act to amend the "Emergency Relief and Construction Act of 1932." This amendatory act, if adopted, will eliminate the requirement that the project must be "self-liquidating," through means other than by taxation and should make it possible to obtain favorable action on the Sanitary District application for a loan.

An improvement in the tax situation in Cook County, Illinois, and consequently in the financial affairs of the Sanitary District of Chicago is expected in the near future. The high percentage of delinquent taxes for the years 1928, 1929 and 1930 has, of course, been due in part to the present financial depression, but it has also been due in large

measure to the disaffection of a great number of property owners, holding real estate, upon which has been levied upwards of seventy-five per cent of the total taxes, banded together to resist the payment of taxes. This movement has been called a taxpayers' "strike." The validity of the tax levies for the years 1928, 1929 and 1930 was contested on the grounds that real estate was over-assessed and personal property was under-assessed. Suits were brought to have the entire assessment for 1928 declared invalid, to enjoin the collection of the 1930 taxes, etc. Many of these cases have been recently decided adversely to the objecting taxpayers. The taxpayers' "strike" appears to be broken, the resisting organizations to be disintegrating and owners of large blocks of valuable real estate are paying their taxes. Receivers are being ordered by the courts to pay taxes and applications are being made for receiverships of properties where the owners of property are able to pay taxes, but refuse to do so.

Meanwhile, in February, 1932, the General Assembly of the State of Illinois, enacted legislation abolishing the elected board of five assessors and of three reviewers in Cook County and substituted in their stead one assessor, appointed by the Governor of the State and the President of the County Board and a Board of Appeals of two members, one appointed by the Governor and one by the President of the County Board. Less complaint is expected regarding taxes assessed under the new organization.

Regardless of the improvement confidently expected in the financial affairs of the Sanitary District, it should be noted that the $40,707,951.77 of uncollected taxes, represents the normal income of the Sanitary District for about two years; that this amount should have been available prior to May 1, 1932, which is already eight months past. This is a matter "beyond the control of the Sanitary District" and is a tremendous handicap in carrying out "such a vast and wholly unprecedented scale of sewage treatment."

The total work accomplished by the Sanitary District of Chicago in the construction of sewage treatment works during the period from June 1, 1932 (the date of the summaries for the last report) and December 1, 1932 (the date of the summaries for this report), as measured by construction expenditures, was as follows:

TABLE 3.

Calumet Project	$ 33,447.66
North Side Project	210,789.48
West Side Project	175,268.65
Southwest Side Project	5,015.17
Miscellanous Plants and Sewers	210,23
Total	$424,731.19

By adding the various items indicated in Table 3 to corresponding items in Table 1, the completed portion of the sewage treatment construction program on December 1, 1932, is as follows:

TABLE 4.

COMPLETED WORK AS OF DECEMBER 1, 1932.

Calumet Project	$20,862,134.96
North Side Project	37,101,223.42
West Side Project	41,653,836.95
Southwest Side Project	277,611.18
Miscellaneous Plants and Sewers	596,188.86
Chicago River Controlling Works	53,415.74
Total	$100,544,411.11

Construction expenditures have been used as the measure of accomplishment in the carrying out of the sewage treatment construction program, as indicated in all the semi-annual reports heretofore filed with the Court. This has seemed the simplest way to indicate relative progress and it will be used in future reports. This method however results in no credit being taken for work accomplished but not paid for, and at the present time there is due from the Sanitary District to contractors approximately $1,115,000.00 for completed work in the sewage

treatment program. Plans are ready on additional works, not yet under contract, estimated to cost about $6,000,000.00.

In the semi-annual report to the Court of January 1, 1932 (pages 9-10) attention was called to the fact that contracts were being let at prices far below those estimated in the program submitted to the Supreme Court. The total saving in this respect, to date, has amounted to $5,330,000.00. That is, on some twenty contracts, works estimated in the original program to cost $19,834,000.00 have been let for $14,504,000.00. This has been due in large measure to contracts being let during the business depression, but part of it is due to the inevitable change in plans, certain to happen in a project of this magnitude.

In order that the work already accomplished may appear more accurately in its relation to the future work to be done, a revised estimate is submitted herewith, in which proper account has been taken of reasonably reduced construction costs which probably will prevail up to the end of 1938 and in which more definite information as to the amount of sewage to be treated at the various plants has been given due consideration.

This estimated cost of future sewage treatment construction, based on present estimates, as of December 1, 1932, is as follows:

TABLE 5.

FUTURE WORK AFTER DECEMBER 1, 1932

Calumet Project	$16,810,000.00
North Side Project	5,517,500.00
West Side Project	56,719,000.00
Southwest Side Project	64,104,000.00
Miscellaneous Plants and Sewers	8,000,000.00
Chicago River Controlling Works	3,200,000.00
Total	$154,350,500.00

Of this total future work, estimated to cost $154,350,500.00, the following amount is under contract:

Calumet Project	$ 4,035,000.00
North Side Project	17,500.00
West Side Project	4,758,000.00
Total Under Contract	$ 8,810,500.00

This leaves a total of $145,540,000.00 of future work yet to be placed under contract. The experiments which have been conducted at the West Side Sewage Treatment Works on the dewatering and incinerating of sludge, since July, 1932, indicate the probability that this process will replace the digestion and disposal of sludge in the future sewage treatment of the Sanitary District. If such is the ultimate conclusion, the estimated costs of future sewage treatment construction would be reduced by the following estimated amounts:

Calumet Works	$ 1,775,000.00
West Side Works	3,000,000.00
Southwest Side Works	5,000,000.00
Total	$ 9,775,000.00

The total estimate of future work, not under contract, would thus apparently be reduced from $145,540,000.00 to $135,765,000.00.

SEWAGE TREATMENT

The population of the Sanitary District of Chicago, as of January 1, 1933, is about 4,130,000, according to estimates made from the figures of the 1930 census. The industrial wastes in the Sanitary District are assumed as equivalent to 1,710,000 additional persons. Hence the total population and industrial wastes equivalent amount to 5,840,000. This figure includes the Corn Products wastes, equivalent to the sewage of 373,000 persons, which wastes have been greatly reduced as a result of certain experimental work initiated by the Sanitary District.

The 1932 total population, and industrial waste equivalent, as above indicated, are estimated as 5,840,000. Up to date, the Sanitary District has assumed that sewage treatment could produce an annual average of 85 per cent purification. Hence, so-called complete treatment for the total January 1, 1933, population and industrial wastes equivalent would equal the 100 per cent treatment of the sewage of 4,964,000, which is 85 per cent of 5,840,000.

The expenditures for sewage treatment have been indicated in Tables 1, 3 and 4. The amounts of actual sewage treatment in operation on June 25, 1932 (as of the time of the last report to the Supreme Court) and at the present time are shown in Tables 6 and 7 following:

TABLE 6.

ACTUAL SEWAGE TREATMENT IN OPERATION AS OF JUNE 25, 1932.

Treatment Works	Population Equivalent	Percentage Treatment	Treatment 100 Per Cent Basis
Calumet:			
(Complete treatment)	15,000	85	13,000
(Sedimentation)	202,000	33⅓	67,000
North Side	1,076,000	85	915,000
West Side (Sedimentation)....	736,000	33⅓	245,000
Miscellaneous (Morton Grove, Glenview, Northbrook)	6,000	85	5,000
Corn Products (Reduction)....	393,000		317,000
Total	2,428,000		1,562,000

TABLE 7.
ACTUAL SEWAGE TREATMENT IN OPERATION
AS OF DECEMBER 24, 1932

Treatment Works	Population Equivalent	Percentage Treatment	Treatment 100 Per Cent Basis
Calumet:			
(Complete treatment)	15,000	85	13,000
(Sedimentation)	207,000	33⅓	69,000
North Side	1,083,000	85	921,000
West Side (Sedimentation)....	743,000	33⅓	248,000
Miscellaneous (Morton Grove, Glenview, Northbrook)	6,000	85	5,000
Corn Products (Reduction) ...	373,000		322,000
Total	2,427,000		1,578,000

The extent of the operation of sewage treatment plants at the present time is equal to the 100 per cent treatment of the sewage of 1,578,000 out of 4,964,000 persons, which would be the present possible 100 per cent treatment if the sewage of the total population and industrial wastes equivalent of 5,840,000 was being treated. This indicates the treatment of 31.8 per cent of the total sewage within the Sanitary District.

DIVERSION OF WATER

As was stated in the last report to the Supreme Court the net diversion of water from Lake Michigan during the calendar year 1931, averaged 6500 cubic feet per second. The domestic pumpage of the Chicago metropolitan area during this period averaged 1680 cubic feet per second; and the total flow from the Main Channel at Lockport averaged 8180 cubic feet per second.

Diversion of water from Lake Michigan by the Sanitary District of Chicago since July 1, 1930, has been made in accordance with a Permit from the Secretary of War, dated June 26, 1930, which authorized the diversion of water as specified in the Decree of the Supreme Court, handed down April 21, 1930. This limits the net diversion to an annual average of not more than 6500 cubic feet per second up to December 31, 1935. The average monthly diversion as made under this Permit from January 1 to December 20, 1932, is indicated in the table following:

Month 1932	Total Flow From Main Channel At Lockport C.F.S.	Inflow From Willow Springs Spillway C.F.S.	Domestic Pumpage Chicago Metropolitan Area C.F.S.	Net Diversion From Lake Michigan C.F.S.
January	8005	2	1595	6410
February	7420	0	1610	5810
March	7155	25	1585	5545
April	7800	1	1575	6225
May	8190	0	1620	6570
June	8140	0	1720	6420
July	7735	0	1760	5975
August	8645	0	1775	6870
September	8885	0	1720	7145
October	8835	0	1630	7205
November	8300	0	1575	6725
December 1 to 20	8095	0	1560	6535
Average	8099	2	1644	6453

All of which is respectfully submitted,

THE SANITARY DISTRICT OF CHICAGO,

By THOMAS J. BOWLER,
Its President.

EDWARD J. KELLY,
Its Chief Engineer.

WILLIAM ROTHMANN,
Its Attorney.

Attest:

JAMES J. SULLIVAN,
Clerk.